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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,195	11/18/2003	Stephen H. Siegele	FOC1130	4128
44654	7590	05/07/2007		
SPRINKLE IP LAW GROUP 1301 W. 25TH STREET SUITE 408 AUSTIN, TX 78705			EXAMINER SMITH, NICHOLAS A	
			ART UNIT 1742	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/716,195	Applicant(s) SIEGELE ET AL.	
	Examiner Nicholas A. Smith	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/5/04</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of group I, claim 1-9 in the reply filed on 16 February 2007 is acknowledged. The traversal is on the ground(s) that not being a burden on the office. Examiner agrees in part and thus recombines Group I and Group II. However, the restriction of group III remains because of its different classification and thus Applicant's argument is not found persuasive.
2. The requirement is still deemed proper and is therefore made FINAL.

### **Status of Claims**

3. Claims 1-18 remain for examination. Claims 19-21 are withdrawn from consideration.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Grant et al. (US 4,125,443) as submitted on 5 April 2004 in Applicant's Information Disclosure Statement.
6. In regards to claim(s) 1, Grant et al. discloses a system for generating a molecular halogen gas, comprising gas generation modules (Figure, col. 2, line 34 to col. 3, line 48). Furthermore, the system is capable of having at least one of the gas

generation modules in a standby mode. A single valve 9 could be turned off and thus the system would have a single module 8 in a standby mode.

7. In regards to claim(s) 7, Grant et al. discloses the gas generation module as an electrolytic cell 8 (Figure, col. 2, line 34 to col. 3, line 48). Grant et al. does not specifically disclose a rectifier, but a rectifier would be inherently present and coupled to electrolytic cells in order to operate and power the electrolytic cell(s) 8.

8. In regards to claim(s) 9, Grant et al. discloses HF and F<sub>2</sub> as feed and product (Figure, col. 2, line 34 to col. 3, line 48).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. in view of Torisu et al. (Provisional application No. 60/306,421, US 2004/0028600) as submitted on 5 April 2004 in Applicant's Information Disclosure Statement.

11. In regards to claim(s) 2, Grant et al. does not specifically disclose a first molecular halogen storage container.

12. Torisu et al. discloses a first molecular halogen storage container 7 coupled to a gas generation module 110 (Figure 1; paragraph [0046]). It would have been obvious to

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one of ordinary skill in the art to modify Grant et al.'s system with Torisu et al.'s storage container in order to store the product (Torisu et al., paragraph [0046]).

13. In regards to claim(s) 3, Grant et al. does not specifically disclose a halide trap.

14. Torisu et al. discloses a halide trap coupled to a molecular halogen storage container (paragraph [0046]). It would have been obvious to one of ordinary skill in the art to modify Grant et al.'s system with Torisu et al.'s halide trap in order to reduce HF concentration (Torisu et al., paragraph [0046]).

15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. in view of Torisu et al. and further in view of Hodgson (US 5,378,324) as submitted on 5 April 2004 in Applicant's Information Disclosure Statement.

16. In regards to claim(s) 4, Grant et al. in view of Torisu et al. does not specifically disclose a filter.

17. Hodgson discloses a filter coupled to the gas generation module (col. 5, lines 8-25). It would have been obvious to one of ordinary skill in the art to modify Grant et al. in view of Torisu et al.'s system with Hodgson's filter in order to remove abrasive solids which could cause erosion of the system (Hodgson, col. 5, lines 15-18). Since the gas generation module and the molecular halogen storage container are coupled, the filter would thus be coupled to the molecular halogen storage container.

18. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. in view of Torisu et al., further in view of Hodgson and further in view of GB 825,185.

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19. In regards to claim(s) 5, Grant et al. in view of Torisu et al. and further in view of Hodgson does not specifically disclose a second trap, filter or storage container, or such equipment connected in parallel configurations.

20. GB'185 discloses a second halide trap connected in a parallel configuration (p. 2, lines 74-77). It would have been obvious to one of ordinary skill in the art to modify Grant et al in view of Torisu et al. and further in view of Hodgson's system with GB'185 second halide trap in order to a trap in service while the other is regenerated (GB'185, lines 74-77).

21. In regards to a second filter and a second storage container, it is noted that Grant et al. discloses that the number of parallel-connected electrolytic cells in a fluorine generation system is dependent on the particular application and to give optimum performance (col. 3, lines 34-56). It would have been obvious to one of ordinary skill in the art to modify Grant et al. in view of Torisu et al., further in view of Hodgson and further in view of GB'185 with at least a second filter and at least a second halogen storage container in order to at least match the capacity of the electrolytic cells. It is further noted that the parallel connection would be desired in order to regenerate (for instance, changing a filter) the additional equipment just as GB'185 suggests above for halide trap in order to maintain service.

22. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. in view of Torisu et al., further in view of Hodgson and GB'185, and further in view of Tojo et al. (US 6,818,105, equivalent to WO01/77412).

23. In regards to claim(s) 6, the above references do not specifically disclose the claimed cabinetry or compartments of the claimed invention.

24. Tojo et al. discloses (col. 2, lines 31-43) cabinetry outside of a gas generation module. It would have been obvious to one of ordinary skill in the art to modify Grant et al. in view of Torisu et al., further in view of Hodgson and GB'185's system with Tojo et al.'s cabinetry around the claimed equipment or around the claimed groups of equipment in order to provide a controlled atmosphere (col. 2, lines 31-45).

25. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. as applied to claim 1 above, and in view of Tojo et al.

26. Grant et al. in view of Tojo et al. is applied to the claims for the same reasons as stated above in paragraphs 23-24.

27. Claims 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al. in view of Tojo et al.

28. In regards to claim(s) 10-11, Grant et al. discloses gas generation modules as stated above in paragraph 6.

29. However, Grant et al. does not specifically disclose the cabinetry.

30. Grant et al. in view of Tojo et al. is applied to the claims for the same reasons as stated above in paragraphs 23-24.

31. In regards to claim(s) 12-13, Grant et al. discloses a controller, F<sub>2</sub> and HF (Figure, col. 2, line 34 to col. 3, line 48).

32. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grant et al.

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33. In regards to claim(s) 14, Grant et al. is applied the claims for the same reasons as stated above in paragraphs 5-6.

34. However, Grant et al. does not specifically disclose a rectifier for each electrolytic cell.

35. It is noted that while Grant et al. is not specific on rectifiers, one of ordinary skill in the art would realize that only two general type of connections are available: a single rectifier connected to all electrolytic cells in parallel or multiple rectifiers connected to each of the electrolytic cells. One of ordinary skill in the art would realize that a single rectifier would reduce capital costs (and all would need to be a rectifier with high current capacity) requiring only one rectifier whereas multiple rectifiers would all more robust process control and better for safety. The optimization of these two factors are well known in the chemical industry.

36. In regards to claim(s) 15, Grant et al.'s electrolytic cell and rectifier are connected and thus would be in a circuit. Grant et al. does not specifically disclose that each rectifier is sized to prevent an explosion. However, it is common practice to have either a fuse to limit current of a circuit-breaker connected to a rectifier to keep equipment safely operating below a maximum current.

37. In regards to claim(s) 16, no structure limitation is added to the claim. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP 2114.

38. In regards to claim(s) 17, please see reasons stated above in paragraph 35.

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39. In regards to claim(s) 18, Grant et al. discloses HF and F<sub>2</sub> as feed and product (Figure, col. 2, line 34 to col. 3, line 48).

**Conclusion**

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

41. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

42. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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